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RESULTS OF AN ORGANIZATIONAL DIAGNOSTIC SURVEY OF AN
ARMY FIELD FACILITY WORK ENVIRONMENT

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Army Research Institute for the Behavioral and Social
Sciences
Arlington, Virginia

January 1976

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Stanley L. Cohen and John R. Turney

HUMAN ADAPTABILITY AND ORGANIZATIONAL EFFECTIVENESS TECHNICAL AREA

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Research Institute for the Behavioral and Social Sciences

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The aim of organizational effectiveness research is to increase human performance effectiveness in an organization and to improve teamwork and job satisfaction, by developing diagnostic instruments to identify problem areas, intervening with organizational development techniques to correct the problems, and finally evaluating the intervention results in terms of productivity and job satisfaction.

A diagnostic Work Environment Questionnaire (WEQ) was developed and validated over a 3-year period at an Army field installation. It elicited from

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20. both supervisors and subordinates their attitudes and perceptions on their job duties, training, performance standards and consequences, and on their organizational supervision, work group, job importance, and feedback. Three versions were tailored with job-specific items for a supervisory NCO position and two different subordinate positions; the items are readily adapted to a variety of actual duties. Data from the 1972 pretest and 1973 survey supplemented the 1974 WEQ survey reported in detail in this report.

Seven major organizational problem areas were identified in both 1973 and 1974: Peer group norms which failed to encourage good performance, insufficient performance feedback need for training in supervisory techniques, role ambiguity and conflict, inadequate intergroup communication patterns, lack of clear performance-reward relationships, and ambiguous performance evaluation standards.

A program of active intervention has since been designed and implemented to reduce these problems; a resurvey has indicated that the intervention did successfully decrease certain problems and increase job satisfaction and performance.

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Organizational Effectiveness Research

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FOREWORD

The Human Adaptability and Organizational Effectiveness Technical Area of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) has among its objectives the expansion of human performance capabilities for effective operation in military units and the improvement of soldier and team performance, motivation, and job satisfaction through the design and use of techniques to increase organizational effectiveness (OE). Organizational Effectiveness Research develops diagnostic instruments to identify problem areas, intervenes with organizational development techniques to correct the problems, and finally evaluates the intervention results in terms of productivity and job satisfaction. Another ARI Technical Paper discusses the development and validation of the Work Environment Questionnaire (WEQ) used to identify organizational problem areas; this report presents and analyzes the WEQ responses which delineate specific areas for OE intervention in a field unit of one Army agency. The WEQ is designed to be adaptable to different agencies and circumstances, and its adaptation for diagnostic use within the Army Air Defense Command is discussed in ARI Research Problem Review 75-I. Research was conducted under Army RDTE Project 2Q762717A723, Organizational Effectiveness Research, FY 1975 Work Program.

J. E. UHLANER
Technical Director

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RESULTS OF AN ORGANIZATIONAL DIAGNOSTIC SURVEY OF AN ARMY FIELD FACILITY WORK ENVIRONMENT

BRIEF

Requirement:

To diagnose existing job/organizational problems in a selected Army work environment, as the first phase of an organizational effectiveness program. Such a program diagnoses organizational problem areas, intervenes with organizational development techniques to solve or reduce them, and finally uses performance criteria to evaluate whether the intervention was successful.

Procedure:

The diagnostic Work Environment Questionnaire (WEQ) was developed and validated over a 3-year period at the Army field installation. The WEQ elicits from supervisors and subordinates their attitudes and perceptions on their job duties, training, performance standards and consequences, and on their organizational supervision, work group, job importance, and feedback, using job-specific items which can readily be adapted to fit a variety of actual duties and organizations. Three versions of the WEQ were tailored for this particular program to fit a supervisory NCO position and two different subordinate NCO-enlisted jobs; data from a 1972 pretest and the first WEQ survey in 1973 supplement findings from the second WEQ survey in 1974.

Findings:

In general, seven major organizational problem areas were identified: Peer group norms which fail to encourage good performance, insufficient performance feedback, need for training in supervisory techniques, role ambiguity and conflict, inadequate intergroup communication patterns, lack of clear performance-reward relationships, and ambiguous performance evaluation standards. The same problem areas were identified in 1973 and 1974.

Utilization of Findings:

With the problem areas diagnosed, a program of active intervention was designed and implemented, using organizational effectiveness techniques, to reduce the specific problems at the field station. A resurvey of the station (the final OE phase) has indicated that the intervention did successfully decrease certain problems and increase job satisfaction and performance.

Even before the intervention phase began, the command was able to take action on specific problems brought to their attention by the WEQ. For instance, on the 1973 WEQ very few responses indicated promotion to be based on merit, while in 1974 a distinct increase in positive answers reflects command action in the interval.

A second OE program is underway at the 32d Air Defense Command. The WEQ has been adapted to their specific operations and administered and the implementation phase is in progress. As more such programs are developed, a generalized set of administration procedures and questionnaire format will be refined so that organizations can adapt the WEQ to their unique characteristics with a minimum of professional assistance.

RESULTS OF AN ORGANIZATIONAL DIAGNOSTIC SURVEY OF AN ARMY FIELD FACILITY WORK ENVIRONMENT

CONTENTS

RESULTS OF AN ORGANIZATIONAL DIAGNOSTIC SURVEY OF AN ARMY FIELD FACILITY WORK ENVIRONMENT

The ultimate goal of the organizational effectiveness (OE) research program is to design and implement techniques which will enhance the Army's effectiveness. A primary objective of the program is to identify and optimize those organizational factors in the Army work environment which are related to soldier job satisfaction, motivation, and performance. To meet this objective a three-phase research program has been developed. These phases are: (1) the identification of critical OE problem areas in sponsoring Army agencies, and the development of diagnostic instruments for this purpose; (2) the implementation of OE techniques to alleviate the problems identified in the first phase of the program; and (3) the evaluation of the intervention effects in terms of meaningful measures of job satisfaction and productivity.

Although the initial approach of the research program must necessarily be to develop instrumentation, intervention techniques, and evaluation methods which are content-specific to the unique combination of specific needs of the sponsoring agency, the constructs underlying the research program are chosen with the goal of eventually generalizing the program to other Army commands. The ultimate goal of the research program is to develop a set of carefully validated diagnostic instruments and organizational effectiveness techniques which can be used Army-wide with a minimum of professional intervention.

The initial research test beds for the OE program have been in field station environments of a selected Army agency. Extensive longitudinal research has been conducted at one major field station in the command over a three-year period in order to develop diagnostic instruments.[1] A pretest in 1972 provided initial data on certain aspects of the station environment. In the course of validating the instruments, surveys were conducted in 1973 and 1974 on selected operations at the field station. This report focuses on the findings of the second Work Environment survey conducted in May-June 1974, although pertinent comparisons are made with findings of the first Work Environment survey in 1973 and, where possible, with the 1972 pretest.

From the attitude and perception data collected in these surveys, several problem areas have been identified; correction of problems in these areas should have a positive impact on the organization's effectiveness and the performance motivation of its men. These data pinpoint a variety of organizational factors that directly or indirectly influence a soldier's job satisfaction and performance.

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[1] Turney, John R., and Cohen, Stanley L. The development of a Work Environment Questionnaire for the identification of organizational problem areas in specific Army work settings. ARI Technical Paper, in press.

A primary purpose of this report is to provide the commanders of the station under study with detailed diagnostic information on the perceptions of their personnel about the organization. From this information, the command can implement several organizational changes immediately. A secondary purpose is to present findings on specific organizational problem areas which can be corrected.

Based on these findings from the first phase of the research, an experimental OE program has been designed and implemented at the field station as the second phase of the research. The final phase has evaluated the effect of a variety of OE techniques in terms of soldier job satisfaction and performance.

METHOD

The survey focused primarily on the Morse operations of the field station, for both research and operational reasons. Experimental considerations were that (1) the work is performed by 16-man teams consisting normally of a senior NCO supervisor in charge of 14 operators and one analyst; (2) both individual and team performance criteria could be collected for validation purposes while the teams did their jobs; and (3) the large number of teams performing identical job functions allowed adequate experimental control. Operationally, the Morse operations are important to the mission requirements of the organization and representative of the complex semicomputerized systems being implemented Army-wide.

Sample Surveyed

All available operators, analysts, and their supervisors were asked to participate in the survey and complete a Work Environment Questionnaire (WEQ). Different questionnaires were designed for each position to be content-specific to the work activities. A total of 122 Morse operators, 16 analysts, and 18 senior NCO supervisors completed questionnaires in the 1974 survey. A sample of approximately similar proportions completed an earlier version of the WEQ in 1973; in 1972, 108 operators, 19 analysts, and 29 supervisors completed the pretest (Table 1). The major difference is the much greater length of military experience for the supervisors in 1974.

The Work Environment Questionnaire

The WEQ was developed by ARI for use in the diagnostic phase of its organizational effectiveness research program. The WEQ has been found to be reliable in assessing an individual's job perceptions (median test-retest reliability with one week inter-trial interval across all categories = .70). Perceptual data collected by the WEQ have been found to relate to meaningful differences in objective, independently measured job performance criteria. The WEQ can reliably detect differences in the job perceptions of individuals which are reflected in their job performance.

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Table 1

PROFILE OF RESPONDENTS

Job Title	Year	N	Mean Months in Military	Rank	Mean Months in Field Station
Operator	1972	108	36	SP4	5[a]
	1973	116	27	SP4	7
	1974	122	30	SP4	12
Analyst	1972	19	18	SP4	6[a]
	1973	11	37	SP4	13
	1974	16	33	SP4	11
Supervisor	1972	29	48	SP6	5[a]
	1973	15	115	SP6	10
	1974	18	159	SP6	14

[a] The field station opened six months before administration of the 1972 WEQ.

The methodologies used to develop and determine the reliability of the WEQ are described in detail elsewhere.[2] In general, an expectancy approach to motivation was used for questionnaire development. A bipolar Likert scaling approach was used wherever appropriate. This approach provided critical information on the number of respondents whose attitude toward a given aspect of the work situation had not yet been polarized (i.e., undecided categories). Such respondents are most amenable to change by OE intervention techniques.

Figure 1 illustrates the conceptual model underlying the questionnaire. As indicated, two major factors influence a soldier's performance in complex systems--the job itself and the work organization surrounding that job. These two factors can operate independently to hinder or enhance an individual's performance motivation and, as a consequence, his productivity. Because of the relative independence of these two factors, improvement of only the job surroundings will not in itself compensate for an unchallenging and seemingly meaningless job. Similarly, designing a challenging job in a work situation which lacks good supervision, adequate communication, and performance feedback will not improve productivity and job satisfaction. Both factors are independently analyzed in the Work Environment Questionnaire.
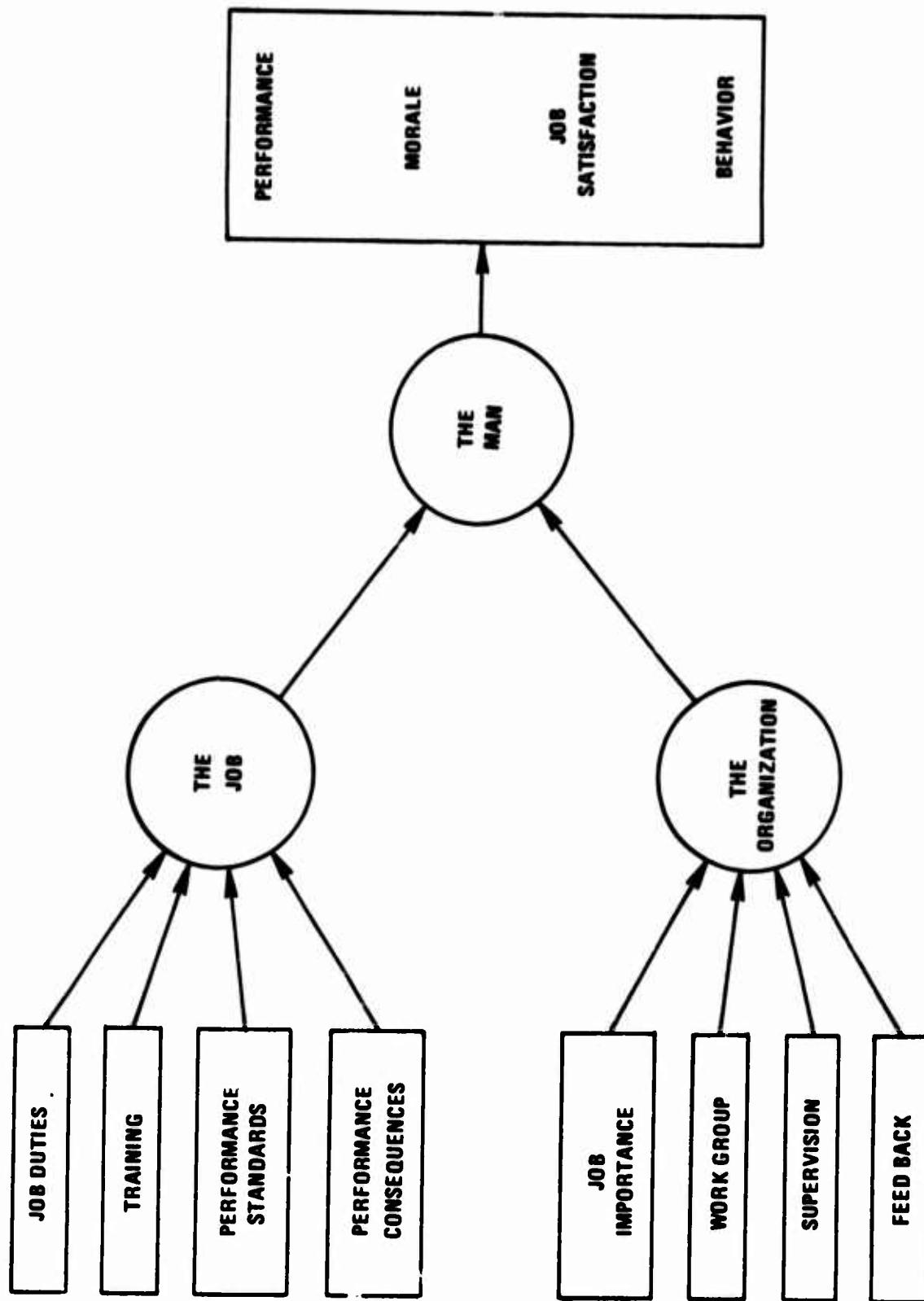
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[2] Turney and Cohen, op. cit.

Figure 1. Factors which influence human performance in complex systems.

The Job section of the Questionnaire includes a description of job duties as perceived by personnel performing the job as well as by their supervisors, the adequacy of job training, the nature of the performance standards being used to evaluate on-the-job behavior, and the consequences which are perceived to result from good performance. Based on job descriptions, indices of extrinsic and intrinsic performance motivation are produced for each job activity. Furthermore, any major discrepancies between supervisor/subordinate perceptions of time spent performing various job activities indicate a need for greater role clarification, a need on which the OE program can focus.

Because of the high degree of dissatisfaction with the adequacy of current performance standards, an attempt was made to document in more detail the extent to which specific standards of performance were used by the supervisors to evaluate their subordinates. An initial set of standards had been developed through earlier interviews and questionnaires, which asked respondents to list standards they felt should be used to evaluate their performance. These lists were then content analyzed and a final set developed to present to respondents as part of the WEQ. For each standard, operators and analysts were asked to rate how heavily that standard was currently being used to evaluate their performance and how heavily they believed it should be used. Their supervisors were also asked how much they actually used each of the standards and how much they would like to use each standard. The goal of this section of the questionnaire was to establish a common set of standards that both superior and subordinate could agree on as meaningful indices of performance on the job. In addition, these standards would serve as potential criteria for determining the relative success of any OE intervention technique.

Critical to the motivation of an individual to perform well on his job is the availability of valued rewards, such as a promotion, which are related to performance. A list of relevant rewards was developed from interviews and questionnaire pretesting, such as a three-day pass, a promotion, and praise from superiors. The WEQ asks respondents to assess: (1) the personal value to them of each reward, and (2) the extent they perceive each reward to be related to good performance. Following Vroom's basic motivational theory,[3] the resultant motivation produced by each reward should be the multiplicative product of (1) x (2). These indices are used to assess the relative values of a variety of rewards currently available to the military to motivate its people. This information is provided to supervisors as part of the OE program, to give them increased insight into the values of their subordinates and provide them with a broader spectrum of rewards for use in motivating their subordinates.

The section of the WEQ dealing with the organization of the work examines the relationships among group members, the adequacy of supervision, the type of feedback provided by the organization and its supervisors,

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[3] Vroom, V. H. Work and motivation. New York: Wiley, 1964.

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the pattern of communication channels, and the importance of the job to the person performing it. These dimensions describe the adequacy of the work environment as a setting for worker job satisfaction and motivation.

Subordinates' perceptions of the adequacy of supervision are measured for three critical areas: (1) the adequacy of the supervisor in organizing and meaningfully assigning job duties, (2) consideration by the supervisor of his subordinate's needs, and (3) the ability of the supervisor to adequately assess the performance of his subordinates. Supervisor perceptions are also obtained in these same areas. Any significant discrepancies between subordinates and supervisors become a focus for the OE program.

The WEQ gauges actual and desired levels of feedback that soldiers received on their performance from a variety of potential organizational sources. Performance feedback is critical to the maintenance of soldier performance. The WEQ also gauges a second type of feedback on how the organization uses the worker's output. This kind of information influences the individual's attitudes toward his job, organization, and organizational mission. Deficiencies identified in either type of feedback can be corrected in an OE program.

In a final section of the WEQ, the soldier's perceptions of the importance of his job to the success of the organization are obtained, as well as his perceptions of how important his supervisor and higher echelons believe his job to be. These perceptions are then compared with information obtained from his superiors about the importance that they attach to his job. If discrepancies occur, the OE program should provide soldiers with information on the true importance of their jobs.

RESULTS

This section presents representative findings for each major area covered in the WEQ. It must be emphasized again that these data represent the subjective perceptions of the respondents about their jobs and organization and describe how the respondents perceive their organization. Certain of these perceptions relate significantly to performance of individuals in their jobs.

The Job Itself

Distribution of work effort. Table 2 describes how the operator job was perceived by the operators themselves and by their immediate supervisors. The groups generally agreed on the distribution of work time for job activities. The greatest discrepancies were for giving and receiving case information and for copying cases, with supervisors believing that their operators spent nearly three times longer on the one and about half as long on the other as the operators reported. These findings suggest that the majority of activities represented meaningful segments of the total operator job which were behaviorally observable by supervisors, with a few exceptions where supervisors' perceptions disagreed with perceptions of their subordinates.

Table 2

OPERATOR JOB ACTIVITIES ESTIMATED BY OPERATORS AND SUPERVISORS

Activity	Estimate of % of Time Operators Spent in Activities	
	Operators	Superiors
Locating Assigned Cases	22	30
Locating Nonassigned Cases	7	6
Copying Cases	30	17
Monitoring Cases	13	8
Servicing Cases	4	3
Giving and Receiving Case Information	5	13
Using Work Aids	4	6
Resting from Job Duties	18	17

Table 3 presents a similar job activity profile for supervisors. Supervisors' and their subordinates' perceptions of the supervisor job did not agree as well as for the operators' job. As before, the major discrepancies fall into categories which are not readily distinguished behaviorally. For example, operators believed their supervisors spent twice as much time resting from job duties as the supervisors state, while supervisors reported spending almost twice as much time monitoring their subordinates' job activities as the operators reported. Monitoring is not an easily observable behavioral activity; the supervisor may have been monitoring his people while the operators thought he was resting between cases. Clarification of this kind of perception will be a focus of the OE program. The sensitivity of the job descriptions to actual job changes can be seen in the supervisors' report of less time spent in monitoring equipment during 1974, which was apparently the result of removal of a major item of equipment in 1974 from the supervisor's area of responsiblity.

The job activity analyses have been used: (1) to indicate the extent that behaviorally discriminant job activities were represented in the WEQ, (2) to compare supervisor/subordinate perceptions of how they distributed their time among these activities, and (3) to serve as a basis for meaningful job redesign as part of a job enrichment program.

Table 3

SUPERVISOR JOB ACTIVITIES ESTIMATED BY
SUPERVISORS AND SUBORDINATE OPERATORS

| | Estimate of % of Time Supervisors Spent in Activities | | | |
| | Supervisors | | Operators | |
Activity	1973	1974	1973	1974
Monitoring Equipment	27	16	18	19
Deciding Case Assignments	13	11	9	10
Giving and Receiving Case Information	15	15	15	21
Tuning and Processing Copy	7	13	12	16
Monitoring Activities of Subordinates	29	36	15	20
Resting from Job Duties	4	9	15	18

This important information also served to provide the sponsoring Army organization with a basis for comparing operator and supervisor work duties with formal standard operating procedures and job requirements in order to determine whether an operator or supervisor is making the best use of his work effort.

Attitudes toward job itself. Several sections of the questionnaire focused on respondents' attitudes about their work. For example, Table 4 shows that only 32% of the operators agreed that their job made good use of their abilities, in contrast to 61% of their supervisors. Table 4 also shows that the number of supervisors who agreed with this declined 25% from 1973 to 1974. Poor utilization of abilities can lead to boredom and apathy toward the job as well as hostility toward the organization, as had happend in this organization. Table 5 shows that only about a third of the operators and supervisors and only 19% of the analysts perceived that their jobs permitted them the opportunity to use their initiative and judgment. The data that over half the operators reported too little opportunity to use initiative and judgment suggest that the operator job may have become overstructured. On the other hand, the data that 30% of the supervisors and 37% of the analysts perceived too much opportunity to use their initiative suggest that understructuring may have been a problem for many analysts and supervisors.

Table 4

PERCENT RESPONSES TO "MY JOB MAKES GOOD USE OF MY ABILITIES"

	By Operators		By Analysts		By Supervisors	
	1973	1974	1973	1974	1973	1974
Agree	35	32	45	56	86	61
Undecided	15	17	9	6	7	6
Disagree	50	51	45	38	7	33

Table 5

PERCENT RESPONSES ON OPPORTUNITY TO USE
JUDGMENT AND INITIATIVE ON THE JOB

	By Operators		By Analysts		By Supervisors	
	1973	1974	1973	1974	1973	1974
Too Much	19	11	36	37	47	36
Just Right	41	34	36	19	33	35
Too Little	41	56	27	44	20	29

Training. The training received by personnel also related directly
to the job. Two issues are important here: (1) the perceived technical
adequacy of the training operators receive from various sources during
their training period, and (2) the establishment of realistic job expec-
tations during training. Although the tendency of trainers to inflate
the importance of the job may motivate the trainee, it may also result
in apathy or hostility toward the organization when the person starts
his job, if he finds his expectations to be false. The data show that
only 36% of the operators and 43% of the analysts felt that their job was
as important as they were initially led to believe during training.

Table 6 indicates the extent that various sources of training were perceived as helpful by the operators. Only 42% of the operators reported discussions with supervisors as extremely helpful in doing their jobs, whereas 59% of the operators perceived informal discussions with fellow workers to be extremely helpful. This finding suggests the importance of informal peer group interaction and the potential influence of the work group on individual performance patterns. In general, the data indicated that operators tended to perceive as more important those sources of training closer to actual job performance. Obviously, these perceptions may not reflect objective facts; for example, without formal school MOS training it would have been virtually impossible for the operator to understand technically how to operate his equipment. However, these findings suggest the need for strong on-the-job training programs and for supervisors who are perceived as technically qualified to help the operator do his job. The findings also indicate the strong potential influence of peers and work groups on a soldier's job performance.

The Organization

Data from this part of the questionnaire are relevant to attitudes about the job environment. Unlike factors concerning the job itself, these factors impinge on the structure of the organization surrounding the job.

Table 6

SOURCES OF TRAINING OPERATORS REPORTED TO
BE EXTREMELY HELPFUL, IN PERCENT

	Extremely Helpful	
	1973	1974
Service School Training	34	41
Formal on-the-job-training (OJT)	35	58
Discussions with Supervisor	47	42
"Sidesaddle" OJT	75	58
Informal Discussions with Fellow Operators	64	59

The work group. The work groups surveyed at the field station are very cohesive, as Table 7 indicates. Approximately two-thirds of the operators felt that members of their work group stuck together, and approximately three-fourths of the operators believed their group worked well together as a team. However, a cohesive work group does not necessarily mean a productive work group. Cohesiveness can serve with equal force to discourage superior performance or to encourage it. The data in Table 8 show that at least half the operators, analysts, and supervisors felt that their work group did not sufficiently encourage superior performance. Moreover, informal performance standards seem to have dropped somewhat from 1973 to 1974. In 1974, 16% more operators and 10% more analysts reported too little encouragement for superior performance. However, 1973 was an improvement over 1972 when only 17% of the operators felt their peers encouraged superior performance.

Table 7

OPERATORS' RESPONSES ON COHESIVENESS OF WORK GROUP, IN PERCENT

	Agree		Undecided		Disagree	
	1973	1974	1973	1974	1973	1974
My group works well together as a team.	78	72	5	13	17	15
Members of my work group stick together	71	64	8	16	21	20

Table 8

PERCENT RESPONSES TO "THE EXTENT MY WORK
GROUP ENCOURAGES SUPERIOR PERFORMANCE"

	By Operators		By Analysts		By Supervisors	
	1973	1974	1973	1974	1973	1974
Too Much	17	6	18	0	7	17
Just Right	40	35	36	44	40	33
Too Little	43	59	46	56	53	50

Note: In 1972 only the operators were asked the comparable question "My work group encourages superior performance"; 17% agreed, 14% were undecided, and 69% disagreed.

<u>Supervision</u>. The first-line supervisor is vital in any organization.
He has primary responsibility for structuring the jobs of his subordinates
so that the organization's goals are met; he must maintain the morale and
performance of his subordinates through genuine concern for the needs of
his people. He also serves as the major channel of organizational rewards
and punishments. Here, his behavior plays a critical role in moderating
the perceptions of his subordinates about the organization and the relation
between the organization's incentives and their performance. This responsi-
bility entails adequate monitoring of the subordinates' job performance
and providing meaningful feedback on its quality.

Central to the adequate structuring of a subordinate's job is the
supervisor's ability to tell the subordinate precisely what to do. Table 9
indicates that the majority of operators felt that their supervisor clearly
defined their job duties and gave clear job instructions. Similarly, over
two-thirds of the supervisors felt that their own superiors provided clear
job instructions for them. Only the analysts perceived a problem in this
area, with only a third reporting adequate supervisory job structuring.

Although the immediate supervisor may provide adequate job structure,
the work group does not function in a vacuum; other supervisors in the
hierarchy may also issue orders. Table 10 indicates that over half of
the respondents perceived the instructions of higher echelons as conflicting
with those of their immediate supervisors. This problem appeared to be
most severe for the analysts and supervisors. However, it seems to have
been somewhat alleviated for the operators during 1974.

Such conflicting instructions might occur because supervisors lack
clearly defined areas of responsibility (Table 11). About half the
operators and analysts felt that their supervisors had clearly defined
areas of responsibility. The remainder either were undecided or felt
that their supervisors did not have such clearly defined areas. Between
1973 and 1974, there was an 11% decrease in the percent of operators who
believed their superiors had clear areas of responsibility.

A supervisor's ability to show consideration for the needs and
expectations of his subordinates is as important as his capacity to
structure a subordinate's job duties. Consideration by a supervisor
entails a genuine sensitivity to the feelings, needs, and job expectations
of his subordinates. Table 12 indicates that about half the respondents
believe their supervisors should consult them more often on work-related
problems. This kind of consideration can provide the supervisor with
valuable information for improving the group's performance, because
shortcuts informally discovered by one operator can be shared with the
supervisor and the entire work group. At the same time, meaningful
considerations can also increase the job involvement of subordinates
by increasing their participation in all aspects of their work situation.

Table 9

RESPONSES ON SUPERVISORY STRUCTURING OF SUBORDINATES' JOBS

	Percent Personnel Reporting "Agree"								
	By Operators			By Analysts			By Supervisors		
	1972	1973	1974	1972	1973	1974	1972	1973	1974
My Supervisor Gives Clear Job Instructions	64	64	58	58	55	44	59	60	62
My Supervisor Clearly Defines My Job Duties	--	73	66	--	36	38	--	80	70

Table 10

PERCENT RESPONSES TO "INSTRUCTIONS FROM MY SUPERVISOR AND OTHERS FREQUENTLY CONFLICT"

	By Operators			By Analysts			By Supervisors	
	1972	1973	1974	1972	1973	1974	1973	1974
Agree	69	56	51	68	73	69	60	63
Undecided	14	13	11	5	9	19	20	31
Disagree	17	31	38	27	18	12	20	6

Table 11

PERCENT RESPONSES TO "MY SUPERVISOR HAS CLEARLY DEFINED AREAS OF RESPONSIBILITY"

	By Operators			By Analysts			By Supervisors		
	1972	1973	1974	1972	1973	1974	1972	1973	1974
Agree	56	68	57	58	36	50	37	47	75
Undecided	16	13	25	21	27	19	15	33	19
Disagree	28	19	19	21	36	31	48	20	6

Table 12

PERCENT RESPONSES TO "THE EXTENT MY SUPERVISOR ASKS MY OPINION ON WORK-RELATED PROBLEMS"

	By Operators		By Analysts		By Supervisors	
	1973	1974	1973	1974	1973	1974
Too Much	12	10	18	12	7	16
Just Right	38	38	36	38	47	28
Too Little	50	52	45	50	47	56

A final supervisory function is monitoring the performance of subordinates. This is most meaningfully reflected in the supervisor's behavior as perceived by his subordinates. An important part of this behavior is the extent to which the supervisor informs subordinates how well they are actually doing their jobs. One aspect of this feedback involves correcting job behavior when performance is poor. Table 13 indicates that workers felt supervisors were doing an adequate job in this area. However, commending outstanding performance is equally important. Table 14 shows that only about a third of the operators and analysts felt that their supervisors adequately commended them for good work, although 88% of the supervisors believed that they personally commended their subordinates appropriately. This discrepancy in supervisor/subordinate perceptions may indicate a lack of consensus of what outstanding performance entails and inadequate objective standards for measuring it accurately.

Performance standards. A number of questions in the WEQ focus on the adequacy of performance standards used by supervisors. Table 15 shows that a high proportion of the operators and analysts did not feel their supervisors conveyed clear, uniform performance standards to them. In contrast, the majority of the supervisors were satisfied that their superiors did convey clear standards.

Feedback. The WEQ provides information about feedback both on job performance adequacy and on the utilization of worker job output. Performance feedback directly helps good performance to continue and also indicates where poor performance could be improved by further training. The workers' immediate supervisor is an important source of performance feedback; others in the organization can also be helpful. Table 16 indicates that the operators desired more feedback than they received from all sources, including the direct users of the operator job output. Although the feedback on how a worker's efforts are used by the organization may not directly impinge on his performance, it can strongly affect the worker's involvement in his job and his perception of the importance of his contribution to the success of the organization. Table 17 suggests that the analysts, operators, and supervisors all desire more feedback on the use of their output than they currently receive.

Table 13

PERCENT RESPONSES TO "MY SUPERVISOR CORRECTS MY BEHAVIOR WHEN I PERFORM POORLY"

	By Operators			By Analysts	
	1972	1973	1974	1973	1974
Agree	76	79	80	73	81
Undecided	12	8	9	9	13
Disagree	12	13	11	18	6

Table 14

PERCENT RESPONSES TO "MY SUPERVISOR PERSONALLY COMMENDS ME FOR OUTSTANDING PERFORMANCE"

	From Subordinates					From Supervisors	
	Operators			Analysts			
	1972	1973	1974	1973	1974	1973	1974
Agree	32	36	39	45	31	100	88
Undecided	21	10	16	0	0	0	12
Disagree	47	54	46	55	69	0	0

Table 15

PERCENT RESPONSES TO "MY SUPERVISOR CONVEYS CLEAR, UNIFORM PERFORMANCE STANDARDS TO ME"

	By Operators		By Analysts		By Supervisors	
	1973	1974	1973	1974	1973	1974
Agree	38	31	45	18	50	58
Undecided	24	21	18	19	36	18
Disagree	37	47	36	63	14	24

Table 16

OPERATOR RESPONSES ABOUT FEEDBACK ON JOB PERFORMANCE

Source of Feedback	% Responding There is Feedback Often		% Would Like Feedback Often	
	1973	1974	1973	1974
Immediate Supervisor	7	14	52	51
Fellow Operators	10	13	35	30
Analyst	14	19	48	51
1st Control Office	7	2	35	36
Operators and Management Officers	4	4	33	42

Table 17

PERCENT RESPONSES ABOUT FEEDBACK ON USE OF JOB OUTPUT

	Often		Sometimes		Never	
	1973	1974	1973	1974	1973	1974
Operators' Responses						
There Is Feedback	0	4	27	20	73	76
Would Like Feedback	35	39	54	48	11	13
Analysts' Responses						
There Is Feedback	0	0	55	56	45	44
Would Like Feedback	27	44	73	43	0	13
Supervisors' Responses						
There Is Feedback	14	0	53	50	33	50
Would Like Feedback	86	50	14	33	0	17

Performance consequences. The WEQ assess two types of performance motivation. One type, intrinsic motivation, focuses on the extent to which a job is interesting and challenging in itself. Programs of job enrichment can introduce changes into many jobs to enhance the intrinsic motivation inherent in their performance. However, technological restraints and economic factors often limit the extent to which jobs can be modified. In these situations, extrinsic motivation becomes critical Extrinsic motivation involves various reward consequences, such as promotion, which are perceived as likely to occur as a function of an individual's job performance.

Several items in the questionnaire were designed to determine the levels of intrinsic motivation generated in each job activity. From this detailed information, job activities can be reorganized and expanded to enhance the intrinsic motivation in the total job.

Other items focus on the extent to which various rewards were perceived as being related to job performance. For example, Table 18 shows that over half the respondents felt promotions were not based primarily on merit. The organization attempted to correct this discrepancy during 1974, with the result that fewer personnel denied the relationship in 1974 than in 1973. A number of other possible performance consequences which might be desired by a worker are listed in Table 19, including increased job responsibility, acknowledgment from supervisor, and praise from fellow operators. "Reward value" indicates the mean evaluation of each of the possible rewards by the operators, on a scale of 1 to 7 where 1 is least and 7 most desired. The second column, "Performance relationship," indicates, on the same scale of 1 to 7, the mean relationship the respondents perceive between superior performance and attaining a given reward. For example, operators perceive a relatively strong relation between performing well on the job and attaining increased job responsibility, but a much weaker relation between performing well and receiving a commendation from the operations office.

According to motivational theory,[4] if we multiply the Reward Value by the Performance Relationship we obtain an index of Motivation value for a given reward. Therefore, we can increase the motivation value of a reward in two ways. We can either increase the value of the reward itself or we can strengthen the relation between the reward and superior performance. Table 19 and Figure 2 show the potential for increasing the motivation value across the listed rewards. The total possible motivation value is 49; the highest value calculated for operators in this study is 22.8. The OE program would attempt to increase the perceived relation between highly valued rewards and good performance.

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[4] Vroom, 1964, op. cit.

Table 18

PERCENT RESPONSES TO "PROMOTIONS ARE BASED PRIMARILY ON MERIT"

| | By Operators | | By Analysts | |
	1973	1974	1973	1974
Agree	13	20	10	19
Undecided	19	21	0	25
Disagree	68	59	90	56

Table 19

OPERATORS' EVALUATIONS AND PERCEPTIONS OF
PERFORMANCE CONSEQUENCES AND MOTIVATION

Reward	Reward Value[a]	x	Relation to Performance[b]	= Motivation[c]
Increased Job Responsibility	5.0		4.3	21.5
Acknowledgment from Supervisor	5.3		4.3	22.8
Promotion	5.9		3.7	21.9
Praise from Fellow Operators	3.9		3.2	12.5
Letter of Commendation	4.4		3.3	14.6
Commendation from Operations Office	4.5		2.8	12.6
Three-Day Pass	5.0		2.1	10.5

[a] Mean evaluation by operators on 7-point scale where 7 = Very Important and 1 = Not Very Important.

[b] Mean perception by operators on 7-point scale where 7 = Very Much Related and 1 = Not At All Related.

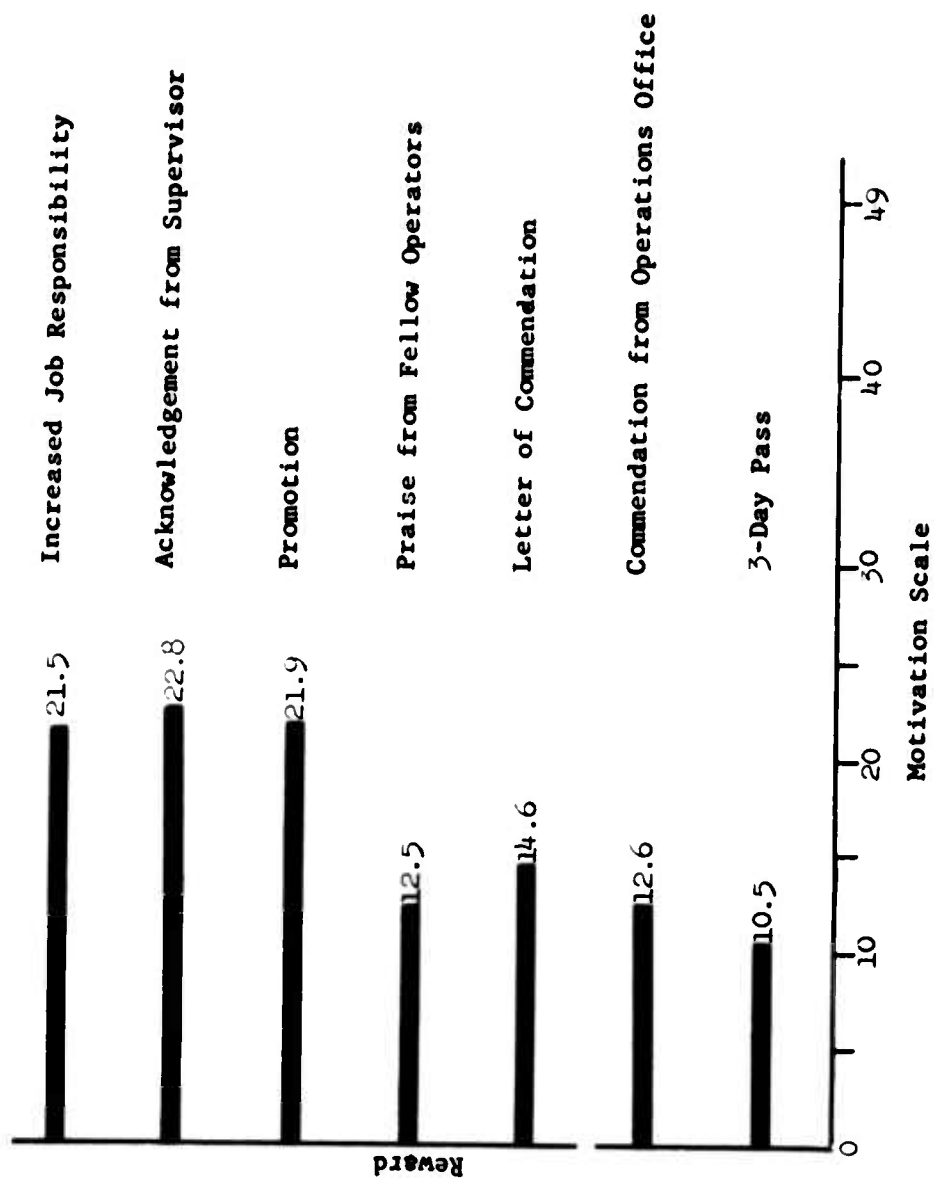[c] Calculated value on 49-point scale.

Figure 2. Graph of performance consequences and motivation

Job importance. Most of the data so far have concerned respondents' attitudes toward specific aspects of their work, each factor contributing in some degree to their overall feelings about their jobs. This general feeling can also be summarized by asking respondents how important they feel their jobs are to the success of the organization, and how important they believe higher echelons feel the respondent's job is. Table 20 shows that only slightly more than a third of the operators felt that their jobs were important to the agency's mission. Furthermore, 15% fewer operators perceived their job as important in 1974 than in 1973, the lowest figure since the field station opened in 1972 and one which should be regarded as a warning signal of problems in the operator job. Approximately two-thirds of the operators believed that their immediate supervisors felt the operator job was important, although only about a third of the operators felt that higher echelons thought so.

Table 21 shows that in 1974 only 31% of the analysts felt their job was important and only 25% believed that their immediate supervisors viewed the analyst job as important. Compared to their subordinates, the supervisors viewed their own jobs in fairly positive terms. As shown in Table 22, two-thirds of the supervisors felt the supervisor job was important. However, this number represents a substantial decrease from 1972 and 1973. Half of the supervisors believed their immediate superiors viewed the supervisor job as important. On the other hand, 20% fewer supervisors in 1974 than in 1973 believed that higher echelons in the station considered the supervisor job to be important. These findings suggest potential problems with the first-line supervisor which could be reflected in the morale of their subordinates.

CONCLUSIONS

The data presented in this paper represent a selection of the findings from the total set of analyses conducted as part of the diagnostic phase of the OE research program in this particular command. In general, seven major organizational problem areas were identified:

1. Lack of peer group norms which encourage good performance

2. Insufficient performance feedback

3. Need for training in supervisory techniques

4. Role ambiguity and conflict

5. Inadequate intergroup communication patterns

6. Lack of clear performance-reward relationships

7. Ambiguous performance evaluation standards

Table 20

OPERATORS' RESPONSES TO "HOW IMPORTANT IS YOUR JOB TO THE SUCCESS OF THE AGENCY MISSION?"

Perception of	% Responding Job Is Important		
Evaluation By:	1972	1973	1974
Self	43	53	38
Supervisor	70	60	61
Higher Echelons, in Station	50	42	39
Higher Echelons, out of Station	33	40	32

Table 21

ANALYSTS' RESPONSES TO "HOW IMPORTANT IS YOUR JOB TO THE SUCCESS OF THE AGENCY MISSION?"

Perception of	% Responding Job Is Important		
Evaluation By:	1972	1973	1974
Self	22	27	31
Supervisor	22	36	25
Higher Echelons, in Station	47	18	19
Higher Echelons, out of Station	32	18	13

Table 22

SUPERVISORS' RESPONSES TO "HOW IMPORTANT IS YOUR JOB TO THE SUCCESS OF THE AGENCY MISSION?"

Perception of Evaluation By:	% Responding Job Is Important		
	1972	1973	1974
Self	82	80	67
Supervisor	75	40	50
Higher Echelons, in Station	71	60	39
Higher Echelons, out of Station	46	40	39

The fact that the same problem areas were identified in both the 1973 and 1974 surveys implies for field commanders that organizational problems as perceived by their troops are not the result of day-to-day fluctuations in the mood of their men. Their correction requires meaningful remedial action by the command.

An ultimate goal of the ARI organizational effectiveness research program is to provide the commander with the necessary technology and managerial skills to introduce effective organizational changes. To this end, ARI has implemented an experimental OE program. The purposes of this program are twofold: (1) to establish the potential utility of a variety of OE technologies for use in the Army; and (2) to improve the efficiency of the field station under study through correction of the specific organizational problems identified.

The program is responsive to the immediate needs of the sponsoring agency, as well as the long term needs of the Army. This experimental program is using OE strategies such as team building, group problem solving, and job enrichment in an attempt to ameliorate the problem areas diagnosed in the earlier phase of the research. Unlike many OE programs, the ARI program is emphasizing adequate evaluation of the program's effectiveness through the use of independently collected job-satisfaction, motivation, and performance criteria.